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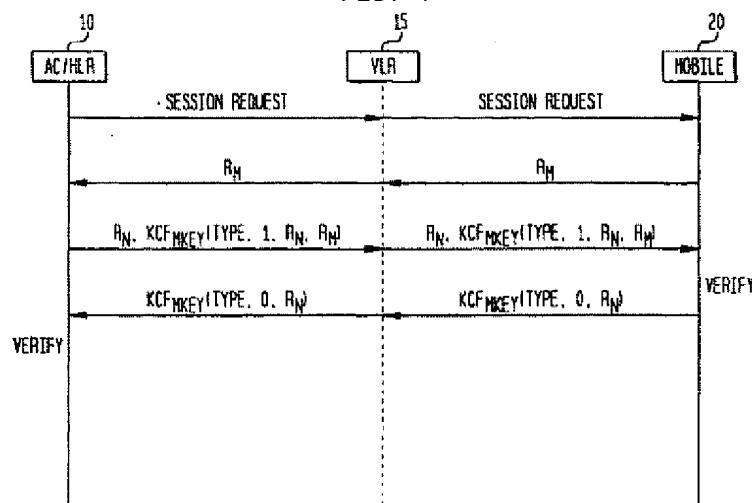
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### (54) Method for updating secret shared data in a wireless communication system

(57) In the method for updating secret shared data (SSD) in a wireless communication system, a first party outputs a first random number as a first challenge wherein the first party is one of a network and a mobile. A second party generates a second random number in response to the first challenge. The second party is the mobile if the first party is the network, and the second party is the network if the first party is the mobile. The second party generates a first challenge response by performing a keyed cryptographic function (KCF) on the first challenge and the second random number using a secondary key, which is not the SSD and is derived from

a root key. The second party then transfers the second random number, as a second challenge, and the first challenge response to the first party. The first party verifies the second party based on the first and second challenges and the first challenge response, generates a second challenge response by performing the KCF on the second challenge using the secondary key, and transfers the second challenge response to the second party. The second party verifies the first party based on the second challenge and the second challenge response. Both parties respectively establish the SSD based on the first and second challenges.

FIG. 4





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## EUROPEAN SEARCH REPORT

Application Number  
EP 99 30 5705

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The present search report has been drawn up for all claims			
Place of search		Date of completion of the search	Examiner
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CATEGORY OF CITED DOCUMENTS		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons  & : member of the same patent family, corresponding document	
X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background D : non-written disclosure P : intermediate document			

ANNEX TO THE EUROPEAN SEARCH REPORT  
ON EUROPEAN PATENT APPLICATION NO.

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